

REMARKS

Applicant has submitted this Amendment in advance of an interview, and appreciates the willingness of the Examiner to conduct an in-person interview following this Amendment. Applicant eagerly awaits a call to schedule a suitable time for the meeting.

Claims 1-18, 21-22, 28-30, and 32-38, as amended, and new claims 39-43 are pending for the Examiner's consideration. Claims 19-20 and 23 and 25-27 have been canceled pursuant to the restriction requirement, which has now been made final, without prejudice to Applicant's rights to file a divisional application for the subject matter of those claims. Claim 24 has not been canceled, but rather has been amended to depend from claim 7, which is included in the group and species elected for restriction.

Claims 1-2 and 13 have been amended to clarify the claimed invention and to highlight a few of the features that render the claims patentable compared to all cited references. First, the hard material is sintered (*See* original claim 7). Second, each annular ring has at least one external surface that is continuous and of a width sufficient to provide an external surface facet (*See*, e.g., FIG. 2). Third, these claims have been amended to recite inner circumference rather than inner surface, to more clearly delineate the annular nature of the claimed jewelry article (*Id.*). Fourth, these claims recite that the facet retains its mirror finish over the normal lifetime of the article (*See*, e.g., Specification at page 5, lines 9-11). Finally, these claims recite that the facet extends concentrically and continuously around the circumference of the ring without variations in its width (*See*, e.g., FIG. 2).

Claim 3 has been amended to remove certain process-related language, which the U.S. Patent Office does not consider pertinent to the patentability of the pending article-type claims. Similarly, claim 4 has been amended to remove such features and instead now recites that the third surface comprises a recessed slot that extends around the annular ring (*See*, e.g., FIG. 2). Claim 15 has been amended to recite a preferred embodiment wherein the insert is shaped so that it forms an annular ring that has no variations in its width when disposed within the cavity (*See*, e.g., FIG. 5). Claim 16 has been amended to clarify that the inner circumference of the annular ring defines the aperture which is configured to receive a finger (*See*, e.g., Specification at page 4, line 25). Claims 32-33 have been amended simply to depend from a pending claim, as they depended from canceled claim 31. Claim 38 recites a preferred embodiment wherein a portion of the inner and external surfaces of the annular ring are also parallel (*See*, e.g., FIG. 7). New claims 39-41 recite a preferred embodiment wherein the jewelry article is a finger ring, and where a metal material or resin component is disposed in the slot between a portion of the annular body and the decoration component to

facilitate retention of the decoration component therein (*See, e.g.*, FIG. 3 and Specification at page 8, lines 12-30). As recited in claim 39, the decoration component has no variations in width (*Id.*). Claim 42 recites a preferred embodiment wherein the decoration component forms a second annular ring in the cavity of the annular ring (*See, e.g.*, FIGS. 3 and 7). New claim 43 recites that second annular ring has an outer circumference that is recessed from the at least one external surface of the sintered hard material (*See, e.g.*, Specification at page 9, lines 8-10). As such, no new matter is believed to have been added by virtue of these amendments and new claims.

Claim 22 was rejected under 35 U.S.C. § 112, second paragraph, as being indefinite as to the "surface" being referenced, on page 2 of the Office Action. Claim 22 has been amended to clarify that it is the at least one external surface that is referenced, for which antecedent basis exists in claim 1. As such, this rejection is believed to be overcome and Applicant respectfully requests that it be reconsidered and withdrawn.

Claims 1-18, 21-22, and 28-38 were rejected as being obvious over U.S. Patent No. 1,431,652 to Grossman ("Grossman") in view of Lederrey on pages 3-4 of the Office Action. The Patent Office states that Grossman teaches annular finger rings of the recited shape that is polished and buffed for a desired finish and luster, along with a cavity (continuous slot) 3 that receives a precious metal insert 2 via a mechanical fit. The Patent Office relies on Lederrey to disclose a jewelry article including a hard material consisting essentially of tungsten carbide and a metal binder with a polished grey mirror finish and being long wearing and virtually indestructible during normal use of the jewelry. Various other design features in claims 2-3, 5-6, 30, 33-34, and 37 are stated to be obvious design choices and aesthetic design considerations within the skill of the art. Applicant traverses for reasons including the following.

Initially, Grossman teaches that its inlay is provided without use of solder, by varying the diameter of the ring body and band relatively to each other (Col. 1, lines 23-30). In particular, this is accomplished by using a mandrel to expand the ring body 1 radially outward against the ornamental band 2 to cause it to fit tightly in the channel 3 (Col. 2, lines 86-105). On the contrary, Grossman fails to recite an annular ring of a sintered hard material because such a material as presently recited would be so hard that Grossman certainly could not use an expanding mandrel to expand the ring body. Thus, Grossman's process would be become inoperable if substituted with a material such as tungsten carbide, and thus, no skilled artisan would consider such an inoperable substitution. In other words, a sintered hard material of a predominantly tungsten carbide material and a binder component are so hard

that they cannot be expanded outwards as described by Grossman. Moreover, the claimed hard material is long wearing and virtually indestructible during normal use of the jewelry article so that the facet retains its mirror finish, which Grossman fails to disclose or suggest. In fact, Grossman teaches use of a gold material, a material that is extremely soft compared to the hard materials recited in the present claims. Furthermore, Grossman teaches that the side edges of the band are "cut out or carved" (Col. 3, lines 2-4), process features which simply cannot be achieved with the hard material presently recited. For all these reasons, it is by no means obvious for an ordinary-skilled artisan to use Grossman as a teaching of how to configure a ring made of a hard material.

To this woefully deficient reference, the Patent Office alleges that it would have been obvious to use tungsten carbide for its intended purpose based on the watch having a part formed of tungsten carbide as disclosed in Lederrey. While Lederrey does teach a watch face made of a hard material such as tungsten carbide, this is used for a watch face and not for an annular ring. Lederrey completely fails to disclose an annular ring structure of tungsten carbide. Furthermore, Lederrey teaches that when threads or other complex grooves or channels are needed in such a product, it is advantageous to substitute other materials such as stainless steel, because that material is easier to machine and process to impart such features. Thus, Lederrey fails to teach the ordinary-skilled artisan anything about how to configure an annular ring of tungsten carbide and, in fact, *teaches away* by disclosing that, when complex shapes or grooves are required, a readily workable metal should be used.

Thus, Lederrey fails to remedy the deficiencies of Grossman even if a motivation to combine the two properly existed, which it does not. Indeed, no such motivation existed at the time of this invention—in spite of the more than *thirty (30) years* that those of ordinary skill in the art have had to combine the teachings of Grossman and Lederrey to arrive at the claimed invention. In the obviousness context, a motivation must have existed in the art itself for one of ordinary skill in the art to combine the references--and this lack of such a motivation in the art of record demonstrates the patentability of the claims over the cited references, or at the very least demonstrates the lack of a *prima facie* case of obviousness by the Patent Office. *In re Lee*, 277 F.3d 1338, 61 U.S.P.Q.2d 1430 (Fed. Cir., 2002) (finding that the Board of Patent Appeals and Interferences improperly relied upon common knowledge and common sense of person of ordinary skill in art to find invention of patent application obvious over combination of two prior art references, since factual question of motivation to select and combine references could not be resolved on subjective belief and unknown authority). Absent the motivation to use a predominantly tungsten

carbide hard material, as presently recited, which was more difficult to work with and to shape, as taught by Lederrey, one of ordinary skill in the art would clearly not have selected such a hard material for use in a jewelry ring.

Furthermore, there was no reasonable expectation of success for one of ordinary skill in the art to have combined Grossman and Lederrey. In fact, it was expected that a predominantly tungsten carbide material would not be susceptible to the: (a) expanding; or the (b) cutting out or carving of the channel, required by Grossman to operably provide a ring. Indeed, Lederrey itself teaches that materials containing tungsten carbide *cannot be effectively machined after being sintered by normal means* (See, e.g., Col. 1, lines 46-49). The known problems of working with tungsten carbide materials were not readily solved, and certainly such a hard material would not have been expected to simply be substituted for gold to provide a ring according to Grossman in view of Lederrey. Further, Lederrey contains numerous teachings of the extreme difficulty of working with sintered tungsten carbide materials to the point where it even states that one cannot make a whole jewelry article such as case-band of hard sintered metal--"it would not be practical to provide screwthreads in such a piece" of tungsten carbide (Col. 3, lines 51-54). Thus, due to the difficulty of working with tungsten carbide, Lederrey taught only to make a non-annular part out of tungsten carbide, i.e., either (1) the outer piece 1 (Col. 3, lines 48-50); (2) thin plates 25 and 26 (Col. 4, lines 34-39); or (3) a substantially rectangular block (Col. 5, lines 6-10). In fact, Lederrey teaches that where a ring is desired, to use a much softer material such as stainless steel (Col. 3, lines 55-57). In sum, there was no reasonable expectation of success in providing a ring according to Grossman using the tungsten carbide material of Lederrey.

Additionally, several claims are separately patentable from even a combination of Grossman and Lederrey, assuming a motivation existed to have combined Grossman and Lederrey, and even if those of ordinary skill in the art reasonably expected to achieve success in obtaining the claimed jewelry articles with annular rings. For example, both references fail to teach the structural configuration where a decoration component in the cavity of the annular ring forms an annular ring that has no variations in its width when disposed within the cavity, as recited in claims 15 and independent claim 39. Indeed, Grossman teaches that its inlay is provided with repeated decorative flourishes of varying width to help retain it in place in its slot, while Lederrey is a watch case that doesn't even teach such an annular slot in which to place a decoration component—except perhaps a slot of stainless steel to provide screwthreads. Moreover, claims 30, 37, and 43 each recite that the decoration component is recessed, which Grossman and Lederrey each fail to teach. In

the case of Lederrey's watch case, the glass component is flush with the tungsten carbide, such as best seen in FIG. 2. Moreover, this recessed structure is not simply ornamental, as alleged by the Office Action. Rather, the structure advantageously helps protect the softer precious metal decoration component from being damaged, while the hard material of predominantly tungsten carbide is disposed to minimize contact of extraneous objects against the softer precious metal.

Moreover, claims 40-41 recite a metal material or a hardening resin component, respectively, that is disposed in the slot between a portion of the annular ring and the decoration component to facilitate retention of the decoration component therein. Grossman specifically teaches that no solder or materials should be used to retain the inlay in its recessed channel (Col. 2, lines 23-25). In fact, Grossman teaches that its invention would be *rendered completely inoperable* by including such a material between the inlay and the ring body (Col. 3, lines 19-25). This is because including other material between the inlay and ring body would cause the bottom of the channel not to form a background for the band, because another material would run beyond the side edges and it would substantially if not wholly fill the spaces. Lederrey fails to remedy this deficiency even assuming it was relevant for more than its teaching of the tungsten carbide material. On the contrary, it is acceptable for the metal or resin component to fill a portion or all of the spaces between the decoration component and annular band of claims 40-41. Thus, for these reasons, Applicant respectfully requests that this rejection under 35 U.S.C. § 103(a) be reconsidered and withdrawn because no *prima facie* case of obviousness has been stated on the record based on the cited references.

Claims 1-18, 21-22, and 28-38 were rejected as being obvious over U.S. Patent No. 2,050,253 to Bager ("Bager") in view of Lederrey on pages 4-5 of the Office Action. This rejection is essentially identical to the one over Grossman and Lederrey, as the Patent Office simply relies on Bager for conventional ring structures and an alleged motivation to use the tungsten carbide from the Lederrey watch case in such structures.

Initially, Bager teaches a ring of noble metal or metals, while the claimed invention recites a hard material predominantly of tungsten carbide. As further described below, Bager is cumulative to Grossman in that it also would have been expected to be rendered inoperable by formation of the hard material presently recited. Bager does not teach that the hard material is long wearing and virtually indestructible during normal use of the jewelry article, because such a hard material would preclude Bager from forming its structure in the first place. Importantly, Bager also teaches that its inlay is provided without use of

solder, which is cumulative to Grossman's teachings. In particular, Bager's ring structure is provided by varying the diameter of the ring body and band relative to each other—after the band has been applied in the channel (Col. 1, lines 23-31). Bager teaches to form a cylindrical blank that has its surfaces rounded through a die, then shaped with a mandrel and optionally having its rim knurled. Each of these three steps is not achievable with a predominantly tungsten carbide material, and thus Bager fails to teach a structure that is achieved by the claimed invention.

In other words, a sintered hard material of a predominantly tungsten carbide material and a binder component are so hard that they cannot be "contracted" as described by Bager (*See, e.g.*, Col. 2, lines 52-55). Moreover, the claimed hard material is long wearing and virtually indestructible during normal use of the jewelry article so that the facet retains its mirror finish, which Bager fails to disclose or suggest. In fact, Bager teaches use of a noble metal or metals for the ring, which are extremely soft compared to the hard materials presently recited. Furthermore, Bager teaches that the side edges of the band are "pressed by dies 13,14 toward each other" (Col. 2, lines 47-51), which cannot be achieved with the hard material presently recited. Thus, Bager would be inoperable if substituted with the material of Lederrey. For this reason, an ordinary-skilled artisan would not look to combine these references.

To the contrary, the Patent Office alleges that it would have been obvious to use tungsten carbide for its intended purpose based on the watch having a part formed of tungsten carbide as disclosed in Lederrey. Lederrey, however, fails to remedy the deficiencies of Bager even if a motivation to combine the two existed, which it does not. Indeed, no such motivation existed at the time of this invention—again in spite of the more than *thirty (30) years* that those of ordinary skill in the art have had to combine the teachings of Bager and Lederrey to arrive at the claimed invention. Yet again, no one has done so as evidenced by the 100 percent market share of Applicant when the products according to the invention were first commercialized. As noted above, the cited references themselves must provide motivation to combine them with each other. *In re Lee*, 277 F.3d 1338, 61 U.S.P.Q.2d 1430 (Fed. Cir., 2002). Here, again, no such motivation exists in Bager or Lederrey that motivates those of ordinary skill in the art to combine these references. As previously noted, tungsten carbide is extremely hard and brittle, as described in a prior Amendment, and cannot simply be pressed, collapsed, contracted, or the like. Indeed, there was no motivation to modify Bager to include the predominantly tungsten carbide material of Lederrey.

Furthermore, there was no reasonable expectation of success for one of ordinary skill in the art to have combined Bager and Lederrey. In fact, the expectation would be just the opposite, namely that it is expected that a predominantly tungsten carbide material would not be susceptible to the: (a) pressing; (b) collapsing of the side walls; or the (c) contracting, required by Bager to operably provide a ring. Indeed, Lederrey itself teaches that materials containing tungsten carbide *cannot be effectively machined after being sintered by normal means* (See, e.g., Col. 1, lines 46-49). The known problems of working with tungsten carbide materials were not readily solved, and certainly such a hard material would not have been expected to simply be substituted for one or more noble metals to provide a ring according to Bager in view of Lederrey. Further, Lederrey contains numerous teachings of the extreme difficulty of working with sintered tungsten carbide materials to the point where it even states that one cannot make a whole case-band of hard sintered metal, as previously discussed. Thus, due to the difficulty of working with tungsten carbide, Lederrey taught only to make a non-annular part out of tungsten carbide (Col. 3, lines 55-57). In sum, there was no reasonable expectation of success in providing a ring according to Bager using the tungsten carbide material of Lederrey.

Additionally, several claims are separately patentable from even a combination of Bager and Lederrey, assuming a motivation existed to have combined Bager and Lederrey, and even if those of ordinary skill in the art reasonably expected to achieve success in obtaining the claimed jewelry articles with annular rings. For example, both references fail to teach a decoration component in the cavity of an the annular ring wherein the decoration component forms an annular ring that has no variations in its width when disposed within the cavity, as recited in claims 15 and independent claim 39. While FIG. 1 appears to show a uniform-width ring, it is clear that the pressing and contracting would necessarily result in modification of the width to introduce variations therein—especially for embodiments where the ornamental strip of Bager is "chased" to deliberately introduce such variations (Col. 1, lines 21-22). Moreover, claims 30, 37, and 43 each recite that the decoration component is recessed, which Bager and Lederrey each fail to teach. In the case of Lederrey's watch case, the glass component is flush with the tungsten carbide, such as in FIG. 2. Moreover, this recessed structure is not simply ornamental, but advantageously helps protect the softer precious metal decoration component from being damaged, as recited in claims 30, 37, and 43 while the hard material of predominantly tungsten carbide is disposed to minimize contact of extraneous objects against the softer precious metal.

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Additionally, Bager is cumulative to Grossman in expressly disclosing that no solder is to be included, however, claims 40-41 recite a metal material or a hardening resin component, respectively, that is disposed in the slot between a portion of the annular ring and the decoration component to facilitate retention of the decoration component therein. Bager specifically teaches that the object of its invention is to produce noble metal rings with no solder (Col. 1, lines 1-11; Col. 3, lines 9-14). In fact, Bager teaches that its invention would be *rendered inoperable* due to the discoloration and annealing necessary to provide solder (Col. 3, lines 21-28). Thus, Bager teaches not to include another material between the annular ring and the inlay. Lederrey fails to remedy this deficiency, even assuming it was relevant beyond teaching a tungsten carbide material. Thus, for these reasons, Applicant respectfully requests that this rejection under 35 U.S.C. § 103(a) be reconsidered and withdrawn because no *prima facie* case of obviousness has been stated on the record based on the cited references.

With respect to the West Declaration submitted on April 25, 2005, the Office Action mistakenly alleges that the West Declaration "fails to effectively establish commercial success" because it did not address market share information (Office Action at pages 6-7). On the contrary, the West Declaration—and the Amendment submitted concurrently therewith—clearly addresses market share. In fact, the West Declaration explicitly stated that the sales of jewelry articles according to the claimed invention "correspond[ed] to a significant increase in market share for the tungsten-carbide rings." (West Declaration at ¶ 7). Moreover, before commercial sales according to the invention, there were not any tungsten-carbide jewelry rings available for sale anywhere to the Declarant's knowledge (West Declaration at ¶ 7). This is further emphasized by the fact that no prior art references disclosing this type product have been cited, nor is Declarant/Applicant aware of any, despite the Patent Office's effort at reviewing patents going back for more than 30 to as many as 80 years in the past. Therefore, the West Declaration clearly states that *no market existed* for the claimed articles before they were made commercially available for sale. Indeed, the West Declaration expressly confirms that the claimed rings "were 100% of the market" once made available, at least until others began copying the claimed invention (*Id.*). With all due respect, Applicant submits that not only is market share clearly demonstrated but evidence of copying, another secondary factor rebutting the hindsight obviousness rejections, is also present.

In spite of the recent copying, the commercial sales of jewelry rings according to the claimed invention are still successful, in that the Applicant has retained at least 70% of

the market for tungsten-carbide rings because of the superior inventive products claimed in the above-noted patent application (West Declaration at ¶ 7). In total dollars, the West Declaration demonstrates that sales according to the invention are not decreasing in spite of a decrease in market share due to copying—because Applicant has created a new market that others are latching onto and that is expanding through Applicant's efforts. Indeed, the West Declaration points out that—tungsten-carbide based rings according to the invention are sold at a price that is significantly higher than traditional gold- and silver-based jewelry rings—in spite of the fact that a reasonably low purchase price is the most important reason for purchasing a particular ring for many consumers (West Declaration at ¶ 8). In spite of this, the West Declaration demonstrates that a consumer need (or desire) existed—and that Applicant developed the claimed articles and resultant market for these articles, which market is not believed to have previously existed (See West Declaration at ¶ 8). Of course, if the Applicant had received a patent on the above-identified application, it is likely he would still retain his commanding 100% market share on the claimed jewelry articles. Since no patents of others exist that teach such a product, it is not an unreasonable request to grant the present patent due to the advantageous products that it discloses to the public. Moreover, the West Declaration shows the great favor in which the public holds the claimed invention due to its commercial success, and the Declaration sets forth all the pertinent details demonstrating the dominant market share of the claimed invention—which dominant market share continues today in spite of knock-off entities copying the claimed invention. Therefore, the West Declaration rebuts even a *prima facie* case of obviousness, such as over the cited references in view of Lederrey described in the pending Office Action. Should the Patent Office identify a legitimate concern regarding the persuasiveness of the West Declaration, Applicant will submit a Supplemental Declaration to address any such alleged deficiency. Therefore, Applicant now believes all claims to be in condition for allowance.

As noted above and as agreed, a telephone or personal interview is now requested to resolve any remaining issues and expedite allowance of this application.

Respectfully submitted,

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Date

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